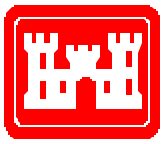
**U.S. Army Corps of Engineers**



# Description of the USACE

# Information Technology Capital Planning

# &

# Investment Decision Process

**Office of the Deputy Chief of Staff**
**for Corporate Information**

**27 January 2000**

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**U.S. Army Corps of Engineers**
**IT Capital Planning and Investment Decision Process**

**I. Introduction.** This document describes the Information Technology (IT) Capital Planning and Investment Decision process in the U.S. Army Corps of Engineers (USACE). This process integrates the principles and techniques for the planning, programming, budgeting, acquiring, and managing of IT investments into a single IT Capital Planning and Investment Decision process to ensure that IT investments contribute to the achievement of USACE missions, programs, and strategic goals and objectives.

USACE has implemented a disciplined, and continually evolving, IT Capital Planning and Investment Decision process that addresses IT program/project prioritization, risk management and other difficult challenges posed by the acquisition and management of IT investments. An effective IT Capital Planning and Investment Decision process uses long range planning and a disciplined budget process as the basis for managing a portfolio of IT investments to achieve business process improvements, increase mission/program performance, and accomplish strategic goals with the maximum benefit and least risk to the government.

Recent legislative acts have focused on improvements to the management processes, including the selection and management of IT resources. The Clinger-Cohen Act introduces more rigor and structure into how organizations approach the selection and management of IT projects. The act requires:

- The implementation of a process for maximizing the value and assessing the risks of IT acquisitions. This IT investment process is to be integrated with the processes for making budget, financial, and program management decisions.

- The Chief Information Officer (CIO) to be responsible for providing advice and other assistance to senior managers to ensure that IT is acquired and information resources are managed in a manner that implements the policies and guidance of the Act, consistent with the Paperwork Reduction Act.

- The CIO to be responsible for developing, maintaining, and facilitating the implementation of a sound and integrated IT architecture which is an integrated framework for evolving or maintaining existing IT and acquiring new IT to achieve the Corps' strategic business and information resources management (IRM) goals.

- The CIO monitors the performance of IT programs/projects, evaluates the performance of those programs on the basis of applicable performance measures, and advises on whether to continue, modify, or terminate the IT program or project.

A key goal of the Clinger-Cohen Act is that organizations should have processes and information in place to help ensure that IT projects are being implemented at acceptable costs, within reasonable and

expected time frames, and are contributing to tangible, observable improvements in mission and/or program performance.

## II. IT Governance.

**A. Governance.** Governance is the act of governing, and is based upon policy, guidance, processes, and procedures. Governance is the overarching framework used by management officials to make decisions, achieve accountability, and accomplish desired end-results or outcomes. For IT, the governance framework is captured in the Figure 1. This model is a simple visualization for the key individuals, by position title, who are empowered with the management responsibilities associated with IT Capital Planning and Investment Decision.

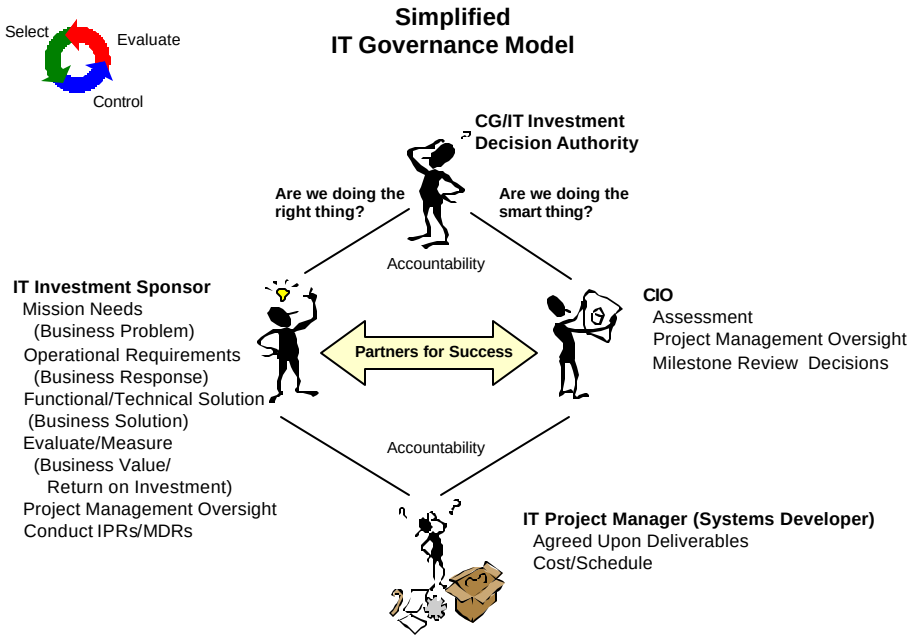



Figure 1.

It is within this framework that the Corps'senior executive (i.e., the CEO) excersises his/her decision authority to manage change (IT is a change agent) and hold subordinates accountable for delivering results. The IT investment sponsor, who wants to create change, partners with the Corps' CIO, who advises and assists to ensure the right IT is adopted and used. The IT investment sponsor's program/project manager is accountable to both the sponsor and CIO for delivering the agreed upon deliverables within cost and schedule.

**B. IT Capital Planning and Investment Decision Process.** The CIO, in partnership with the business units, ensures that the principles of business process reengineering have been applied, and that the business process has been streamlined as necessary, prior to the planning phase for IT investments. Included in this process is an analysis of whether or not there needs to be an IT investment to enhance the performance of the business process and how this investment will contribute to improvements in

mission and/or program performance. The IT Capital Planning and Investment Decision process follows this assessment.

The IT Capital Planning and Investment process has three phases which occur in a continuous cycle. The Selection, Control, and Evaluation phases link IT investment decisions to Corps strategic objectives and business plans. These three phases involve the complementary roles of the Milestone Decision Authority (MDA) for the Life Cycle Management of Information Systems and the board, committee, and team members involved in the management of the USACE Information Technology Investment Portfolio.

- In the Selection phase, the designated MDA, for a proposed initiative, evaluates it for strategic advantage, technical feasibility, and economic benefits and grants approval or disapproval. Additional guidelines (e.g., OMB, DoD, Army) as well as USACE policy help drive the decision. Approval by the MDA does not guarantee budget approval and this requires the Functional Proponent (FP) of the proposed initiative to submit a busines case to the Executive Information Technology Steering Board (EITSB) to compete as a new start for the required funds. In addition to the evaluation criteria used by the MDA, the EITSB considers different focus areas (e.g., mission, infrastructure, sustaining base, research and development) and strives to achieve a balance between the investments and the anticipated benefits. The organization's strategic position can influence the decision to invest more in a different focus area in the upcoming fiscal year and less in the focus area of the MDA-approved initiative causing the proposal to be rejected and requiring it to recompete in a subsequent budget cycle. The same procedure holds for proposed major enhancements of an already existing IT initiative.

- In the Control phase, the bulk of the oversight activity is the MDA's responsibility. An IT initiative in the early stages of its life cycle, or a major acquisition must receive MDA approval to proceed to the next life cycle phase. The MDA would provide additional guidance on corrective measures to be taken. In addition to issuing instructions on taking corrective measures, the MDA may require that the business case be submitted to the IT Investment Portfolio evaluation committees and teams for further scrutiny and budget recompetition. The MDA will provide the EITSB with a list of all IT initiatives that have received MDA guidance including those that have been granted MDA approval, as well as those that have been disapproved or terminated.

- The Evaluation phase benefits from the full participation of the EITSB in the sense that this board makes the final judgements on how well the IT investments support the organization and the level of funding they should receive. Aided by the decision of the MDA on the individual IT initiatives, the evaluation of business cases by the technical and functional assessment teams, and advice from the CIO and the CFO; this board -- made up of strategic level managers -- applies their knowledge of the USACE strategic direction in evaluating the entire IT investment portfolio. Some factors that may come into play in the evaluation of the board members are (1) strategic alignment of the IT initiative, importance to the mission of the organization, and how effectively it supports the mission, i.e. via performance measures which are being coordinated with input from the Strategic Management Board (SMB), (2) the estimated

return on investment that can be anticipated, (3) how the IT initiative compares to other initiatives that are competing for the same funds. A shift in the organization's strategic focus, as mentioned earlier, plays an important part in how the EITSB members make the decision on how much to fund an IT investment. The board's recommendation, along with the advice of the CIO and CFO, is given to the Program and Budget Advisory Council (PBAC) which is chaired by the Commanding General who makes the final investment decision.

**C. IT Investment Management Infrastructure.** The Clinger/Cohen Act requires the establishment of an IT investment management infrastructure which establishes clear lines of authority, responsibility and accountability for the management of the enterprise's IT investments. The Corps' CIO, in partnership with the business units, establish the IT Investment Portfolio, develop business value and risk evaluation criteria, and implement an evaluation/decision process. This ensures that programs/ projects submitted for funding are compared against a uniform set of screening criteria and thresholds in order to determine whether the projects meet minimal requirements and to identify at what organization level the projects should be reviewed. The costs, business values, and risks of all IT projects - proposed, under development, operational, etc.- are then assessed and the projects are compared against each other and ranked or prioritized. This ranking criteria includes cost, business value, and risk.

There are committees/teams which evaluate and recommend to the senior decision-making boards what actions need to be taken on the selection of IT investments for funding in alignment with the budget process, based on mission needs and organizational priorities. The investment decision process consists of the following major components:

1. IT Investment Portfolio Review Team. Staff members of the Office of the Deputy Chief of Staff for Corporate Information conduct a preliminary review of the IT investment portfolio to select which investments need to undergo closer scrutiny. They perform a support function to the USACE Chief Information Officer. The group looks at the total portfolio and identifies new starts, major enhancements, and ongoing operations and support. New starts and major enhancements are generally selected for further scrutiny. Any abnormal fluctuation in the funding level of an investment in operations and support will also warrant this further review.

The entire porfolio is reviewed to consider the investments in the light of their strategic value to the organization and to ensure that they have stayed synchronized with any shifts in organizational focus. Another criterion to use in the preliminary review is the state of the art in industry, and whether the IT investments are still using the best solution offered by the latest changes in the technology. Investments selected for further scrutiny require that the Functional Proponent (i.e., IT investment sponsor or IT investment domain manager) prepare a business case outlining their funding requirements, values, and risks.

2. Investment Analysis Team (IAT). This group of individuals facilitates the whole IT investment decision process. Its membership is taken from the staff of the Deputy Chief of Staff for Corporate Information. They have several roles in the entire process that includes,

- Serving as a consultant to the Functional Proponent in the preparation of the business case.
- Facilitating the technical assessment of the business case.
- Ensuring compliance with the USACE Information Architecture.
- Providing an "honest broker's" appraisal of the strengths and weaknesses of the business case being presented.

The team submits their analysis in a report to the Cross Functional Assessment Team (CFAT).

3. Cross Functional Assessment Team. The CFAT is composed of mid-level functional business unit representatives and is currently chaired by the USACE Deputy Chief of Staff, Operations. Equiped with the business cases prepared by the Functional Proponents and the analyses by the IAT, the CFAT uses its collective institutional business knowledge as well as individual functional area knowledge, derived from years of experience in their respective business processes, to assign scores to the values and risks of the IT investments from a corporate perspective.

[USACE adopted the evaluation methodology currently taught at the Information Resource Management College, National Defense University. Value and risk criteria identified, and definitions written as applicable to usage in the Corps.]

CFAT members score each IT project based upon the business criteria (i.e., values and risks), which is weighted based upon its relative importance to USACE, to determine IT investment "worth." The resulting scores of these IT investments are compared against each other and the proposed investments are then ranked based on the scores. Figure 2 provide an example of how IT investment are compared to one another.

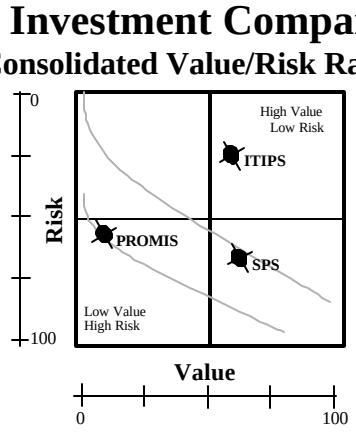



Figure 2.

4. Executive Information Technology Steering Board (EITSB). This board consists of Senior Executive Service and General Officer senior leaders, and is chaired by the Deputy Commander. The EITSB reviews the CFAT's ranking of the proposed initiatives and its executive summary. Based on their understanding of the Corps's strategic initiatives/focus areas and other considerations, the Board may change the ranking of the CFAT's proposed initiatives. The Board provides a priority list of proposed investment initiatives.

5. Chief Information Officer (CIO) and Chief Financial Officer (CFO). These individuals act in an advisory capacity to the EITSB by addressing concerns or questions posed by the Board prior to forwarding the prioritzed list for funding considerations.

6. Program and Budget Advisory Council (PBAC). The Budget process is handled by the Program and Budget Advisory Council (PBAC) which receives the prioritized list of proposed investments from the EITSB. The Council funds the list of proposed investments to the extent that funds are available.

**D. Execution of the IT Capital Planning and Investment Decision Process.** This process begins with the preparation of the yearly IT Capital Plan and is facilitated by the updating of the USACE IT Investment Portfolio System (ITIPS). The Corps has integrated its IT Capital Planning with its inventory of IT to form a portfolio of IT investments. ITIPS directly supports the Selection, Control and Evaluation functions of IT investments as required by the Clinger-Cohn Act. ITIPS is a key tool to support Corps senior executives as they determine priorities and make decisions on which IT programs/ projects will be funded during the year.

All IT acquired and maintained by USACE activities, regardless of costs, must be entered and kept current in ITIPS. This includes IT for all Corps functional areas, including business, scientific, technical, administrative, and engineering applications (e.g., Computer Aided Design and Drafting (CADD) and Geographical Information Systems (GIS) applications). The only exceptions are as follows:

- Systems being developed or maintained or IT being acquired on a reimbursable basis for the sole use of customers outside of the Corps.
- Systems developed as an integral part of internal research and development (R&D) projects, when the system is not targeted for a production environment. However, IT being acquired in support of R&D projects must be included, i.e., office automation hardware and software in support of the mission and functions of the organization is not R&D.

The primary steps involved are outlined below:

1. All IT initiatives are entered into the ITIPS under the appropriate IT classification. IT classifications are used to expand on the definition of Information Technology contained in the Clinger Cohen Act and to facilitate the planning, budgeting, and tracking of IT costs in USACE. IT classifications include Automated Information Systems (AIS), Communications, Office Automation (hardware/software), Automated Engineering Tools, Information Technology Infrastructure, and other

IT. These are the primary focus areas for the purpose of entering and tracking IT information and costs in the Information Technology Investment Portfolio System. In addition, all IT investments in the AIS category are treated as an Applications Portfolio, which is managed to promote integration between applications and to eliminate duplicate applications or functionality between applications.

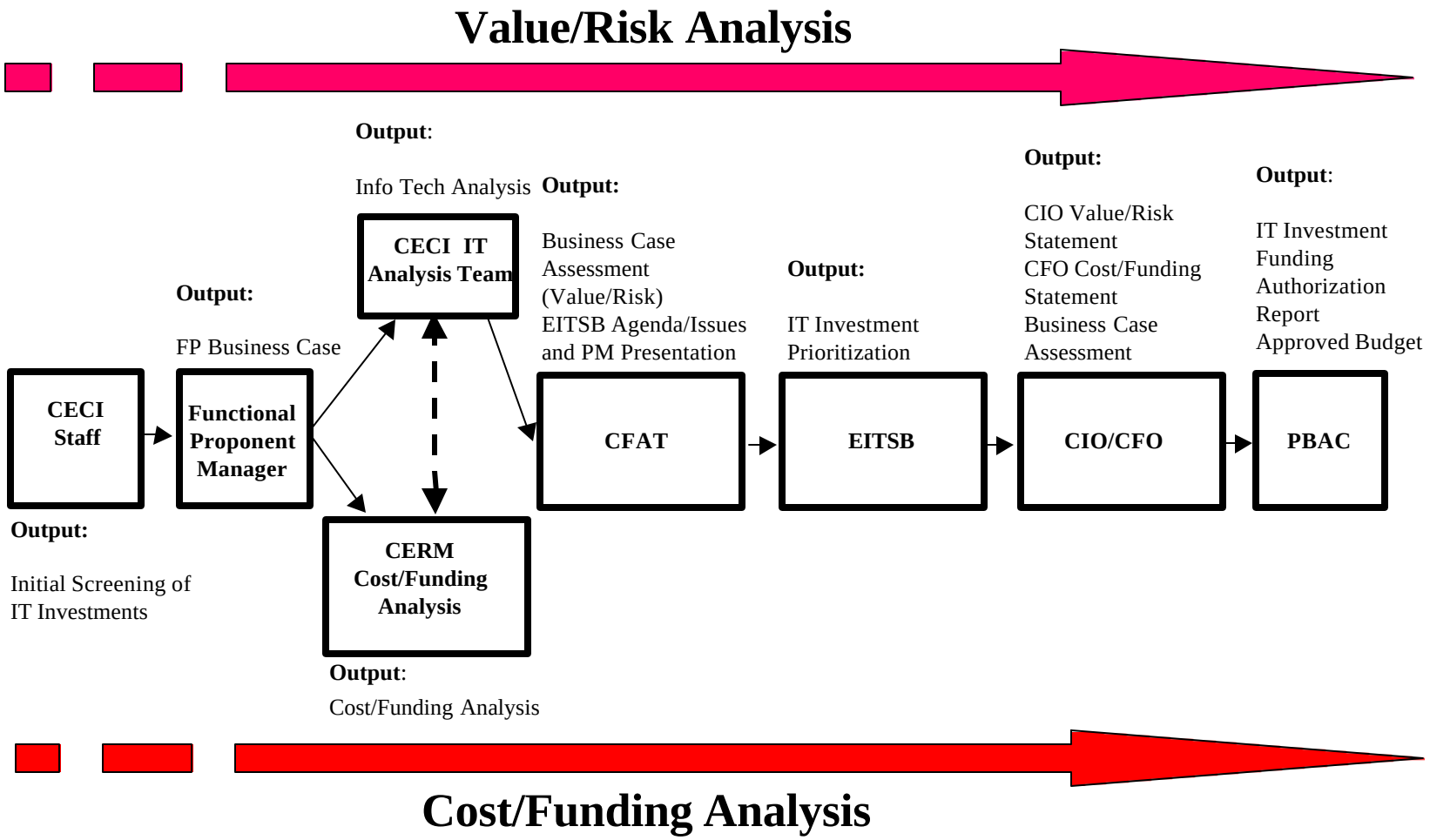
2. Financial data is entered and displayed in ITIPS for each IT initiative for past years' budgets, the current (approved) budget, the requested and planned budget year (budget year +1), and future planning or out years. Cost catergories are used for entering the financial data for the three budget years (current, requested , and planned budget years). This facilitates the preparation of the actual operating budget request and the collecting and tracking of actual expenditures against planned/budgeted amounts. The cost categories include Civilian Pay, Equipment Purchases/ Leases/Maintenance, Communications, Supplies, Software Purchases/Leases/Maintenance, and Contract Support.

3. Depending on the life cycle phase of the initiative, financial information is entered by program costs, enhancement costs, and operations & support costs. This assists in determining the Milestone Decision Authority for life cycle management purposes, as well as aids in determining the depth of review during the IT Capital Planning and Investment Decision Process.

4. The completion of the annual update results in the generation of the USACE Information Technology Investment Portfolio, which forms the basis for making IT Capital Planning and Investment decisions at HQUSACE. Among other uses, the information contained in the ITIPS database is used to support IT functional proponents and IT project managers in managing their IT initiatives; to produce and display IT programmatic information (e.g., profile cost & usage trends, etc.); and to respond to questions and tasks from senior leadership and higher headquarters. Planned future modifications to ITIPS will provide USACE with the ability to automate the preparation of OMB Exhibit 53, and supporting Exhibit 300Bs.

The process and timeline for the IT Capital Planning and Investment Decision Process is contained in enclosure 1 and 2.

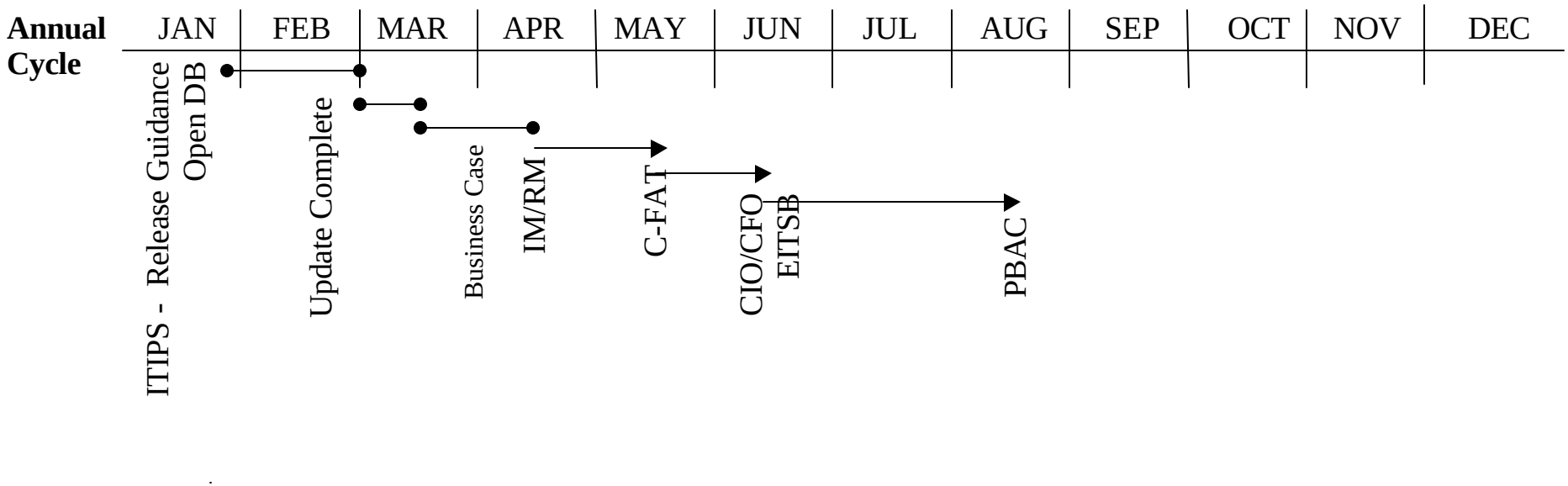
# IT Investment Evaluation and Decision Management Process



# IT Capital Planning & Budget Process Schedule

## Budget Year 2001 & Planning Year 2002 + Outyears

For New Starts & Initiatives Exceeding Budget Threshold (>15%)




Note: Out-of-Cycle initiatives are submitted anytime but will receive abbreviated review.